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UNITED STATES PATENT AND TRADEMARK OFFICE

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BEFORE THE BOARD OF PATENT APPEALS  
AND INTERFERENCES

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*Ex parte* ZIDU MA, LOUIS J. SPADACCINI,  
HE HUANG, HARRY CORDATOS,  
FOSTER PHILLIP LAMM, and INGO PINNAU

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Appeal 2009-013717  
Application 10/786,707  
Technology Center 1700

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Before BRADLEY R. GARRIS, LINDA M. GAUDETTE, and  
KAREN M. HASTINGS, *Administrative Patent Judges*.

HASTINGS, *Administrative Patent Judge*.

DECISION ON APPEAL

Appellants seek our review under 35 U.S.C. § 134 of the Examiner's final decision rejecting claims 6-19 and 21-26. We have jurisdiction over the appeal under 35 U.S.C. § 6(b). We AFFIRM-IN-PART.

Claims 6 and 16 are illustrative of the claimed subject matter:

6. A method of manufacturing a non-porous membrane device comprising the steps of:

forming a first membrane layer in a first coating process by drying a first solution in a first drying process;

forming a second membrane layer on top of the first membrane layer in a second coating process by drying a second solution in a second drying process, the second membrane layer and the first membrane layer form a non-porous membrane; and

disposing said non-porous membrane in a fluid separating device.

16. A fluid separator comprising:

a first membrane layer;

a second membrane layer disposed on top of said first membrane layer; and

an indistinct, seamless boundary between the first membrane layer and the second membrane layer.

The Examiner maintains, and Appellants appeal, the following rejections:

claims 16-19 and 21-23 under 35 U.S.C. § 102(b) as anticipated by WO 739<sup>1</sup>;

claims 16-18 under 35 U.S.C. § 102(b) as anticipated by WO 868<sup>2</sup>;

claims 6-14 and 24-26 under 35 U.S.C. § 103(a) as unpatentable over the combined prior art of WO 739, Nemser<sup>3</sup>, and alternately Bowser<sup>4</sup>; and

claim 15 under 35 U.S.C. § 103(a) as unpatentable over the combined prior art of WO 739 and Nemser, with Spadaccini<sup>5</sup> or Staroselsky<sup>6</sup>.

*The § 102 Rejections*

MAIN ISSUES ON APPEAL

Did the Examiner err in finding that the claimed product of claim 16 is anticipated by WO 739 or by WO 868, because, as alleged by Appellants, WO 739 and WO 868 do not teach the claimed seamless boundary required by claim 16 (App. Br. 3-5; Reply Br. 2)?

Did the Examiner err in finding that the claimed product of dependent claim 22 is anticipated by WO 739, because, as alleged by Appellants, WO 739 does not teach that each layer has a thickness of about 1 micrometer as required by claim 22 (App. Br.4)?

We answer both of these questions in the negative.

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<sup>1</sup> WO 98/35739 published Aug. 20, 1998.

<sup>2</sup> WO 02/11868 A1 published Feb. 14, 2002.

<sup>3</sup> US 5,051,114 issued Sept. 24, 1991.

<sup>4</sup> US 5,116,650 issued May 26, 1992.

<sup>5</sup> US 6,709,492 B1 issued Mar. 23, 2004.

<sup>6</sup> US 7,041,154 B2 issued May 9, 2006.

## PRINCIPLES OF LAW

It is well established that, as held by a predecessor of our reviewing court:

[I]t is elementary that the mere recitation of a newly discovered function or property, inherently possessed by things in the prior art, does not cause a claim drawn to those things to distinguish over the prior art. Additionally, where the Patent Office has reason to believe that a functional limitation asserted to be critical for establishing novelty in the claimed subject matter may, in fact, be an inherent characteristic of the prior art, it possesses the authority to require the applicant to prove that the subject matter shown to be in the prior art does not possess the characteristic relied on.

...

Whether the rejection is based on “inherency” under 35 U.S.C. § 102, on “prima facie obviousness” under 35 U.S.C. § 103, jointly or alternatively, the burden of proof is the same, and its fairness is evidenced by the PTO’s inability to manufacture products or to obtain and compare prior art products. [Citation omitted].

*In re Best*, 562 F.2d 1252, 1254-55 (CCPA 1977) (footnote omitted); *see also In re Spada*, 911 F.2d 705, 708 (Fed. Cir. 1990).

It is well established that, when a product recited in product-by-process format reasonably appears to be the same as or obvious from a product of the prior art, the burden is on applicant to show that the prior art product is in fact different from the claimed product, even though the products may be made by different processes. *In re Thorpe*, 777 F.2d 695, 697 (Fed. Cir. 1985). *See also In re Marosi*, 710 F.2d 799, 803 (Fed. Cir. 1983) (“[T]he burden is upon the applicants to come forward with evidence establishing an unobvious difference between the claimed product and the

prior art product.”). This evidence must be commensurate in scope with the claims. *Id.*

Arguments and conclusions unsupported by factual evidence carry no evidentiary weight. *In re De Blauwe*, 736 F.2d 699, 705 (Fed. Cir. 1984); *In re Lindner*, 457 F.2d 506, 508 (CCPA 1972).

## ANALYSIS

### with Factual Findings

Appellants argue the rejected claims in each anticipation rejection as a group (App. Br. 3-5), except they separately argue dependent claim 22 (App. Br. 4). Thus, we select independent claim 16 as the representative claim on which our discussion will focus, and we shall also discuss separately argued claim 22.

We adopt the factual findings and reasoning of the Examiner (Ans. 4-6, 9-10) and add the following primarily for emphasis.

Appellants’ main contentions in the briefs are that the Examiner has not provided sufficient evidence that WO 739 or WO 868 would have the claimed “indistinct, seamless boundary” (App. Br. 3-5). These arguments are of no persuasive merit.

With respect to the rejection based on WO 739, the Examiner’s position that the product claim *de facto* encompasses a product having only one membrane layer after processing is reasonable (Ans. 4). Indeed, Appellants’ Specification states that “[t]he homogenous non-porous membrane 120 *has no distinct layers* because the layers were integrated” (Spec. 11, para. [41]; emphasis provided). In any event, we also agree that the Examiner’s position that the methods used in WO 739 are sufficiently

similar to Appellants' method used to achieve the claimed seamless boundary, that the burden has shifted to Appellants to show that the product obtained in WO 739 by applying multiple coatings by the prior art methods discussed by the Examiner would not have the claimed seamless boundary.

With respect to the rejection based on WO 868, Appellants' argument that the "seamless" transition of WO 868 is not also "indistinct" as claimed (App. Br. 5) is unavailing. Appellants' Specification contains no definition of the term "indistinct seamless boundary"; indeed, it appears that this term is not used in the Specification (*generally* Spec.). Appellants do not refute the Examiner's finding that WO 868 teaches seamless bonding (Ans. 5; *generally* App. Br. Reply Br.). Appellants have not provided any convincing technical rationale or evidence that the seamless transition between the two zones/layers of WO 868 would not have also been indistinct. Indeed, WO 868 teaches that the transition is "seamless, i.e., continuous" (WO 868, 17, ll. 1-2). That the two neighboring zones have different pore sizes as argued by Appellants (App. Br. 5) does not negate the reasonableness of the Examiner's position, since as the Examiner pointed out, the claims "do not exclude [a] membrane with porous layers" (Ans. 5).

Since the USPTO has no facilities for testing products made in accordance with WO 739 or WO 868's teachings, it is appropriate to shift the burden to Appellants to show that the products taught by WO 739 or WO 868 do not result in an "indistinct seamless boundary" as claimed. Because the Examiner reasonably concluded that each of WO 739 and WO 868 meets all of the structural limitations of the final product of claim 16, the burden shifted to Appellants to show non-anticipation. *See In re Best*, 562 F.2d at

1255; *In re Spada*, 911 F.2d at 708. Appellants have not met that burden with respect to the argued limitation of an “indistinct seamless boundary”.

With respect to the claimed product of dependent claim 22, Appellants’ argument that WO 739 does not teach or suggest that each layer has a thickness of about 1 micrometer as required by claim 22 is unavailing (App. Br. 4). As even Appellants point out, the membrane thickness taught in WO 739 may be 0.6 to 6 micrometers (*id.*). Since the Examiner has reasonably found that the final product may constitute a single membrane layer (Ans. 4), the end resultant thickness of the final membrane product of about 2 micrometers as required by claim 22 is taught by WO 739.<sup>7</sup> Accordingly, the evidence as a whole supports the Examiner’s findings of anticipation, and on the record before us, we sustain the § 102 rejection of claims 16-19 and 21-23 as anticipated by WO 739, as well as the § 102 rejection of claims 16-18 as anticipated by WO 868, as maintained by the Examiner.<sup>8</sup>

### *The § 103 Rejections*

### MAIN ISSUES ON APPEAL

Did the Examiner err in determining that the method of claim 6 would have been obvious over the applied prior art because, as alleged by Appellants, there is no suggestion that the methods suggested by these

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<sup>7</sup> Independent claim 6 from which claim 22 depends is drawn to a final membrane product having no distinct layers, in accordance with Appellants’ Specification. Appellants have not claimed an intermediate product with two layers. Accordingly, we interpret dependent claim 22 as merely requiring a final product thickness of about 2 micrometers.

<sup>8</sup> Only those arguments actually made by Appellants have been considered in this decision. Arguments which could have been made but Appellants chose not to make have not been considered and are deemed to be waived. *See* 37 C.F.R. § 41.37(c)(1)(vii) (2008).



references would have resulted in a seamless boundary (App. Br. 5; Reply Br. 2)?

We answer this question in the negative.

Did the Examiner err in determining that the method of claim 15 would have been obvious over the applied prior art because, as alleged by Appellants, the prior art of Spadaccini or Staroselsky relied upon in this rejection are disqualified as prior art under 35 U.S.C. § 103(c) (App. Br. 6)?

We answer this question in the affirmative.

### ANALYSIS

Appellants argue the rejected claims in the § 103 rejection of claims 6-14 and 24-26 as a group (App. Br. 5-6). Thus, we select independent claim 6 as the representative claim on which our discussion will focus. We shall also discuss separately rejected and argued dependent claim 15.

We fully agree with the Examiner that the method of claim 6 would have been obvious over the teachings of the applied prior art (Ans. 5-8, 10-11). We add the following for emphasis.

Appellants' main argument that there is no suggestion in the applied prior art that the "claimed seamless boundary" would have resulted from the methods therein is unavailing (App. Br. 5), since method claim 6 does not require a seamless boundary. Indeed none of the method claims require a "seamless boundary" per se. "Many of appellant's arguments fail from the outset because, . . . they are not based on limitations appearing in the claims." *In re Self*, 671 F.2d 1344, 1348 (CCPA 1982).

To the extent that dependent claim 8 requires a single homogenous non-porous membrane (*e.g.*, a seamless boundary; *see* claim 8, Claims

Appendix), Appellants have not provided any persuasive technical reasoning nor evidence to rebut the Examiner's reasonable position that it would have been obvious to use the prior art processes' conditions as exemplified in Nemser and/or Bowser to build up the multiple layers explicitly taught in WO 739 and that this would have inherently resulted in a homogenous non-porous membrane (Ans. 8; *generally* App. Br. Reply Br.).

Appellants' argument that Nemser only teaches a single layer is unavailing, since, as aptly pointed out by the Examiner, WO 739 is relied upon to teach the use of multiple layers (Ans. 10).

Furthermore, "[a] person of ordinary skill is also a person of ordinary creativity, not an automaton." *KSR Int'l Co. v. Teleflex Inc.*, 550 U.S. 398, 421 (2007). The Examiner's position is reasonable in view of the applied prior art, and Appellants have not provided any convincing technical reasoning or evidence that one of ordinary skill in the art would not have, using no more than ordinary creativity, successfully used multiple coatings that were each dried for the membrane of WO 739 (*see generally* App. Br.; Reply Br.). In this context, the use of multiple coatings and drying each coating would have been nothing more than using a known technique in accordance with its known function for the predictable result of building up a membrane to safeguard against pinhole defects as stated in WO 739. *See KSR*, 550 U.S. at 415-16 ("The combination of familiar elements according to known methods is likely to be obvious when it does no more than yield predictable results.").

With respect to separately rejected dependent claim 15, the Examiner has provided no response to the Appellants' reasonable position that each of the alternative references, Spadaccini and Staroselsky, applied in this

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rejection were commonly owned at the time the subject invention was made and are therefore disqualified as prior art (App. Br. 6; *generally* Ans.).

Accordingly, we are constrained to reverse the § 103 rejection of claim 15.

#### DECISION

We affirm the Examiner's rejections of claims 6-14, 16-19 and 21-26.

We reverse the Examiner's § 103 rejection of dependent claim 15.

No time period for taking any subsequent action in connection with this appeal may be extended under 37 C.F.R. § 1.136(a)(1).

#### AFFIRMED-IN-PART

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